

DEGENERATE LEVEL QUBIT OPERATIONS

ABSTRACT

5 A method for quantum computing with a quantum system comprising a first
energy level, a second energy level, and a third energy level. The first energy level and
said second energy level are capable of being degenerate with respect to each other. In
the method a signal is applied to the quantum system. The signal has an alternating
amplitude at an associated frequency such that (i) the frequency of the signal correlates
10 with an energy level separation between the first energy level and the third energy level
or (ii) the frequency of the signal correlates with an energy level separation between the
second energy level and the third energy level. The signal induces an oscillation in the
state of the quantum system between the first energy level and the second energy level.